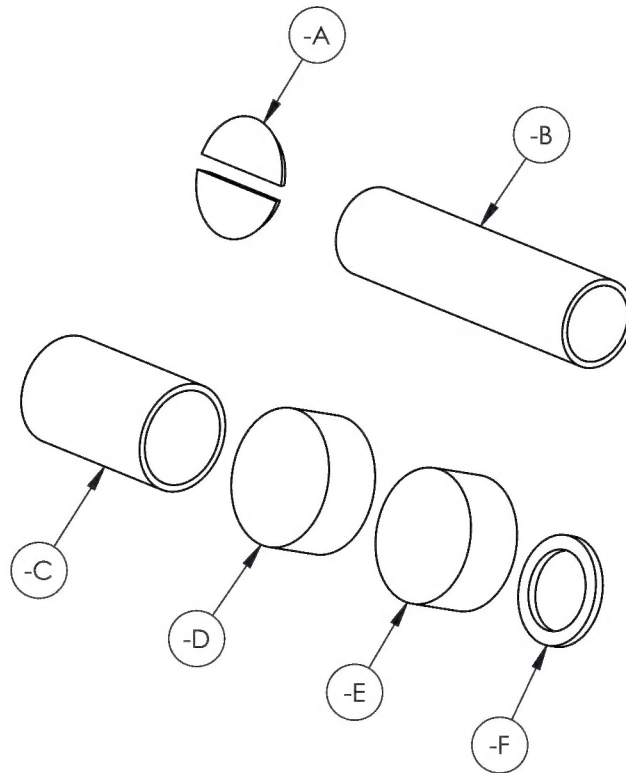


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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
A		CH'D TITLEBLOCK & REVISION BLOCK, CH'D TOOL NUMBER FROM RB67828.	8/12/2009	RJC	RW
1		-B & -C MATERIAL CH'D WAS SCHEDULE 40 IS DOM SEAMLESS.	10/16/2013	RJC	GE
2	17-0054	-A, -C, -D, -E, -F ADDED NOTE ENGRAVE P/N. -A CH'D MATERIAL WAS 4130 IS 4140/4142. -B, -C, -D, -E, -F CH'D TOLERANCES FROM $\pm .005$ TO $\pm .010$, FROM $\pm .01$ TO $\pm .03$. -B CH'D DIM'S WAS $\varnothing 2.875$ IS $\varnothing 2.88$, WAS $\varnothing 2.5$ IS ($\varnothing 2.469$), WAS 11 IS 11.00. ADDED NOTE ENGRAVE T/N, S/N, "MADE IN USA" P/N. CH'D MATERIAL WAS DOM SEAMLESS IS SCHEDULE 40. -C CH'D DIM'S WAS $\varnothing 3.5$ IS $\varnothing 3.50$, WAS $\varnothing 3.094$ IS ($\varnothing 3.068$). CH'D MATERIAL WAS DOM SEAMLESS IS SCHEDULE 40. -D CH'D DIM WAS $\varnothing 4.4$ IS $\varnothing 4.40$, WAS 2 IS 2.00. -E CH'D DIM WAS $\varnothing 4.3$ IS $\varnothing 4.30$, WAS 2 IS 2.00. ADDED NOTE ENGRAVE "E". -F CH'D DIM WAS $\varnothing 3.5$ IS $\varnothing 3.50$, WAS .3 IS .30. CH'D MATERIAL WAS STEEL IS 4140/4142.	3/3/2017	RJC	JAG

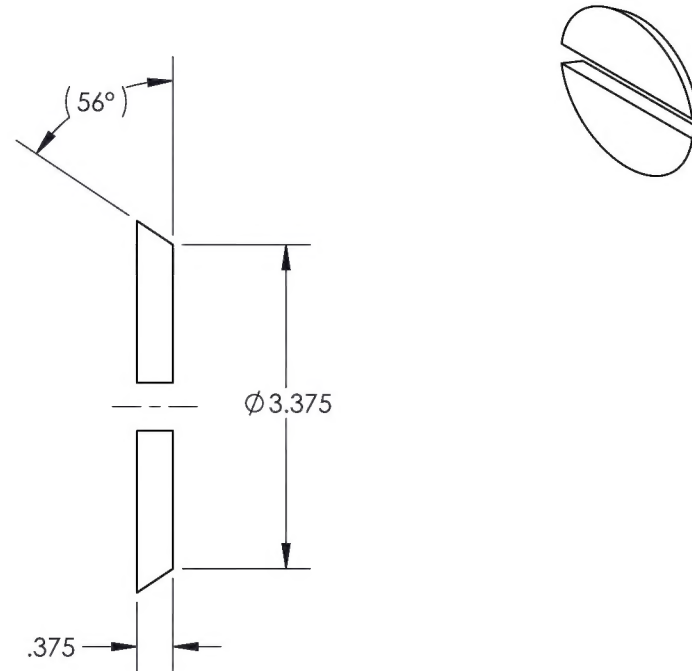
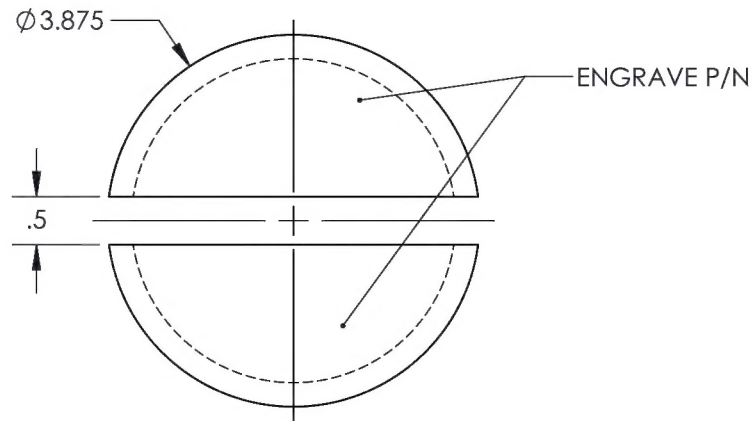


DART AEROSPACE																													
TITLE M/R HUB BEARING TOOLS																													
DWG NO. RBT67828	REV 2																												
<table border="1"> <tr> <td>MAT'L</td> <td>UNLESS OTHERWISE SPECIFIED</td> </tr> <tr> <td>TREAT</td> <td>DIMENSIONS ARE IN INCHES</td> </tr> <tr> <td>FINISH</td> <td>.XXX \pm .005 FRACTIONS \pm 1/8</td> </tr> <tr> <td></td> <td>.XX \pm .01 ANGLES \pm 5°</td> </tr> <tr> <td></td> <td>.X \pm .1 SURFACES = 125✓</td> </tr> <tr> <td>SPEC</td> <td>1. BREAK ALL SHARP EDGES .015 x 45° OR .015R</td> </tr> <tr> <td>DRAWN BY:</td> <td>PERRITT</td> </tr> <tr> <td>CHECKED:</td> <td>DUERFELDT</td> </tr> <tr> <td>OPPS APPR:</td> <td>ANDERSON</td> </tr> <tr> <td>QA APPR:</td> <td>LINDSAY</td> </tr> <tr> <td>APPROVED:</td> <td>GILBERT</td> </tr> <tr> <td>SCALE</td> <td>1:6</td> </tr> <tr> <td>DATE</td> <td>7/1/2005</td> </tr> <tr> <td colspan="2">SHEET 1 OF 7</td> </tr> </table>		MAT'L	UNLESS OTHERWISE SPECIFIED	TREAT	DIMENSIONS ARE IN INCHES	FINISH	.XXX \pm .005 FRACTIONS \pm 1/8		.XX \pm .01 ANGLES \pm 5°		.X \pm .1 SURFACES = 125✓	SPEC	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	DRAWN BY:	PERRITT	CHECKED:	DUERFELDT	OPPS APPR:	ANDERSON	QA APPR:	LINDSAY	APPROVED:	GILBERT	SCALE	1:6	DATE	7/1/2005	SHEET 1 OF 7	
MAT'L	UNLESS OTHERWISE SPECIFIED																												
TREAT	DIMENSIONS ARE IN INCHES																												
FINISH	.XXX \pm .005 FRACTIONS \pm 1/8																												
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	.X \pm .1 SURFACES = 125✓																												
SPEC	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R																												
DRAWN BY:	PERRITT																												
CHECKED:	DUERFELDT																												
OPPS APPR:	ANDERSON																												
QA APPR:	LINDSAY																												
APPROVED:	GILBERT																												
SCALE	1:6																												
DATE	7/1/2005																												
SHEET 1 OF 7																													

ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			-A	1	PRESS BEARING CUPS OUT OF HUB	4140/4142		2
			-B	1	PRESS BEARING CUPS OUT OF HUB	SCHEDULE 40		3
			-C	1	PRESS LOWER BEARING CONE ON SLEEVE BUSHING	SCHEDULE 40		4
			-D	1	PRESS UPPER BEARING CUP INTO HUB	6061		5
			-E	1	PRESS LOWER BEARING CUP INTO HUB	6061		6
			-F	1	IN PLACE OF UPPER SEAL RETAINER WHILE ADJUSTING ROTATIONAL DRAG	4140/4142		7

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	17-0054	-A ADDED NOTE ENGRAVE P/N. CH'D MATERIAL WAS 4130 IS 4140/4142.	3/3/2017	RJC	JAG



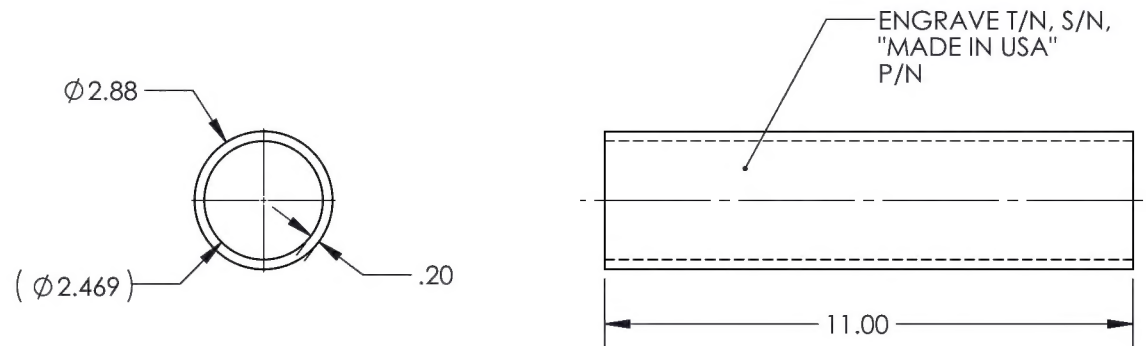
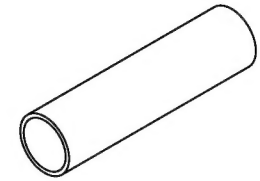
(-A)

PRESS BEARING CUPS OUT OF HUB

DART AEROSPACE	
TITLE M/R HUB BEARING TOOLS	
DWG NO. RBT67828-A	REV 2
MAT'L 4140/4142	UNLESS OTHERWISE SPECIFIED
HEAT TREAT	DIMENSIONS ARE IN INCHES
FINISH BLACK OXIDE	.XXX \pm .005 FRACTIONS \pm 1/8
SPEC QMSI-6.2.2, B.O. REV D	.XX \pm .01 ANGLES \pm .5°
DRAWN BY: PERRITT	.X \pm .1 SURFACES = 125°
CHECKED: DUERFELDT	1. BREAK ALL SHARP EDGES
OPPS APPR: ANDERSON	.015 x 45° OR .015R
QA APPR: LINDSAY	2. DIMENSIONAL LIMITS APPLY
APPROVED: GILBERT	AFTER PLATING
SCALE 1:2	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
DATE 7/1/2005	USED ON MODEL
SHEET 2 OF 7	MD HELICOPTERS

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-B MATERIAL CH'D WAS SCHEDULE 40 IS DOM SEAMLESS.	10/16/2013	RJC	RW
2	17-0054	-B CH'D DIM'S WAS Ø2.875 IS Ø2.88, WAS Ø2.5 IS (Ø2.469), WAS 11 IS 11.00. ADDED NOTE ENGRAVE T/N, S/N, "MADE IN USA" P/N. CH'D MATERIAL WAS DOM SEAMLESS IS SCHEDULE 40. CH'D TOLERANCES FROM ±.005 TO ±.010, FROM ±.01 TO ±.03. ADDED DIM .20.	3/3/20107	RJC	JAG



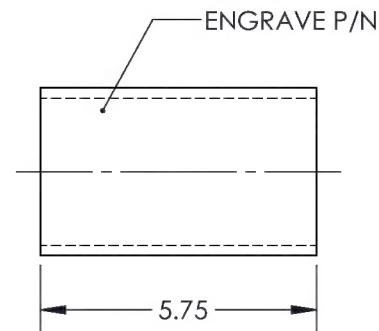
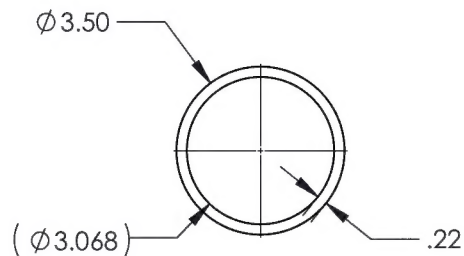
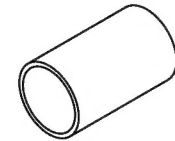
(B)

PRESS BEARING CUPS OUT OF HUB

DART AEROSPACE	
TITLE M/R HUB BEARING TOOLS	
DWG NO. RBT67828-B	REV 2
MAT'L SCHEDULE 40	UNLESS OTHERWISE SPECIFIED
HEAT TREAT	DIMENSIONS ARE IN INCHES
FINISH BLACK OXIDE	.XXX ± .010 FRACTIONS ± 1/8
SPEC QMSI-6.2.2, B.O. REV D	.XX ± .03 ANGLES ± 1°
DRAWN BY: PERRITT	.X ± .1 SURFACES = 125
CHECKED: DUERFELDT	1. BREAK ALL SHARP EDGES
OPPS APPR: ANDERSON	.015 x 45° OR .015R
QA APPR: LINDSAY	2. DIMENSIONAL LIMITS APPLY
APPROVED: GILBERT	AFTER PLATING
SCALE 1:4	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
DATE 7/1/2005	USED ON MODEL
SHEET 3 OF 7	MD HELICOPTERS

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-C MATERIAL CH'D WAS SCHEDULE 40 IS DOM SEAMLESS.	10/16/2013	RJC	
2	17-0054	-C CH'D DIM'S WAS Ø3.5 IS Ø3.50. WAS Ø3.094 IS (Ø3.068). ADDED NOTE ENGRAVE P/N. CH'D MATERIAL WAS DOM SEAMLESS IS SCHEDULE 40. CH'D TOLERANCES FROM ±.005 TO ±.010, FROM ±.01 TO ±.03.	3/3/2017	RJC	JAG



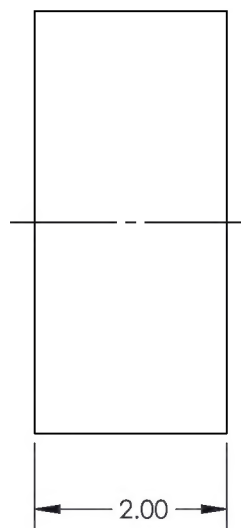
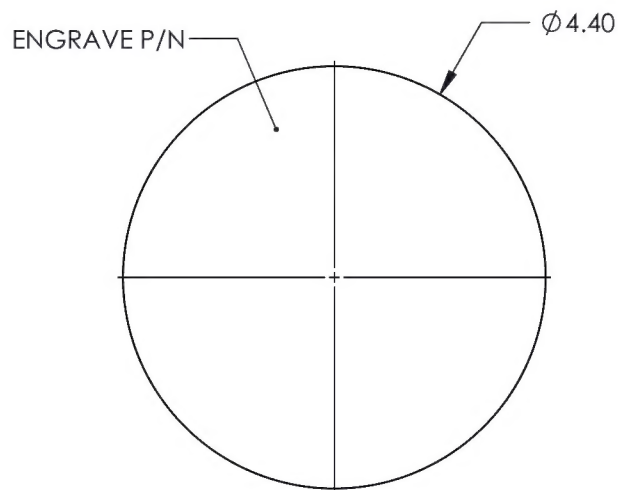
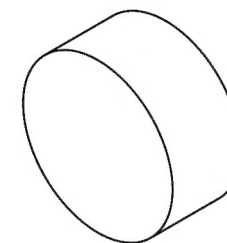
(C)

PRESS LOWER BEARING CONE ON SLEEVE BUSHING

DART AEROSPACE	
TITLE M/R HUB BEARING TOOLS	
DWG NO. RBT67828-C	REV 2
MAT'L SCHEDULE 40	UNLESS OTHERWISE SPECIFIED
HEAT TREAT	DIMENSIONS ARE IN INCHES
FINISH BLACK OXIDE	.XXX ± .010 FRACTIONS ± 1/8
SPEC QMSI-6.2.2, B.O. REV D	.XX ± .03 ANGLES ± 1°
DRAWN BY: PERRITT	.X ± .1 SURFACES = 125° ✓
CHECKED: DUERFELDT	1. BREAK ALL SHARP EDGES
OPPS APPR: ANDERSON	.015 x 45° OR .015R
QA APPR: LINDSAY	2. DIMENSIONAL LIMITS APPLY
APPROVED: GILBERT	AFTER PLATING
SCALE 1:4	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
DATE 7/1/2005	USED ON MODEL
SHEET 4 OF 7	MD HELICOPTERS

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	17-0054	-D CH'D DIM WAS Ø4.4 IS Ø4.40, WAS 2 IS 2.00. ADDED NOTE ENGRAVE P/N. CH'D TOLERANCES FROM ±.005 TO ±.010, FROM ±.01 TO ±.03.	3/3/2017	RJC	JAG



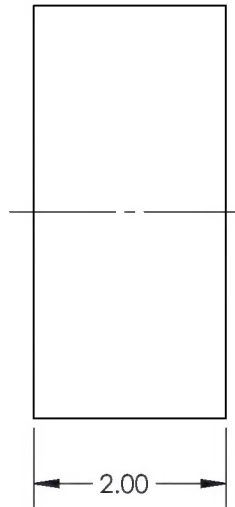
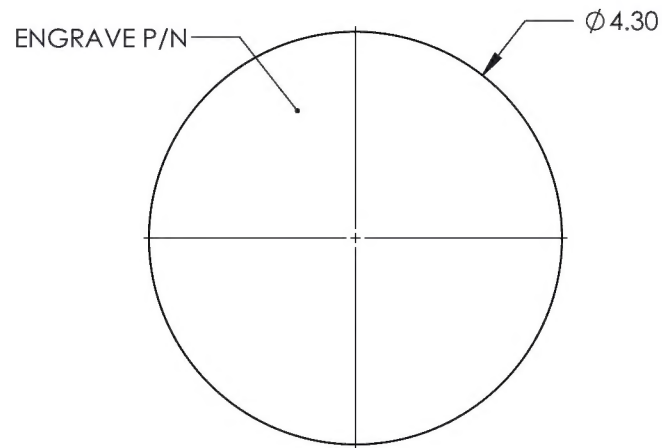
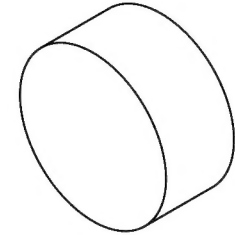
(-D)

PRESS UPPER BEARING CUP INTO HUB

DART AEROSPACE	
TITLE M/R HUB BEARING TOOLS	
DWG NO. RBT67828-D	REV 2
MAT'L 6061	UNLESS OTHERWISE SPECIFIED
HEAT TREAT	DIMENSIONS ARE IN INCHES
FINISH BLACK ANODIZE	.XXX ± .010 FRACTIONS ± 1/8
SPEC MIL-A-8625F, TYPE II, CLASS III	.XX ± .03 ANGLES ± 1°
DRAWN BY: PERRITT	.X ± .1 SURFACES = 125
CHECKED: DUERFELDT	1. BREAK ALL SHARP EDGES
OPPS APPR: ANDERSON	.015 x 45° OR .015R
QA APPR: LINDSAY	2. DIMENSIONAL LIMITS APPLY
APPROVED: GILBERT	AFTER PLATING
SCALE 1:2	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
DATE 7/1/2005	USED ON MODEL
SHEET 5 OF 7	MD HELICOPTERS

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	17-0054	-E CH'D DIM WAS Ø4.3 IS Ø4.30, WAS 2 IS 2.00. ADDED NOTE ENGRAVE P/N. CH'D TOLERANCES FROM ±.005 TO ±.010, FROM ±.01 TO ±.03.	3/3/2017	RJC	JAG



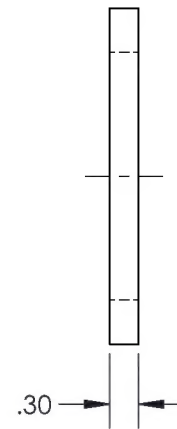
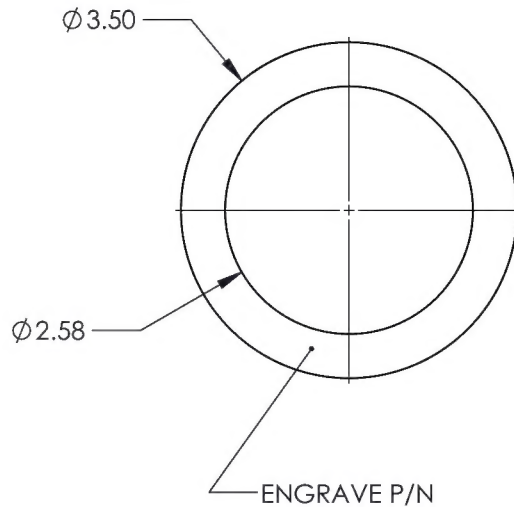
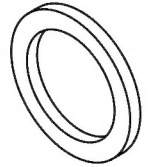
(-E)

PRESS LOWER BEARING CUP INTO HUB

DART AEROSPACE	
TITLE M/R HUB BEARING TOOLS	
DWG NO. RBT67828-E	REV 2
MAT'L 6061	UNLESS OTHERWISE SPECIFIED
HEAT TREAT	DIMENSIONS ARE IN INCHES
FINISH BLACK ANODIZE	.XXX ± .010 FRACTIONS ± 1/8
SPEC MIL-A-8625F, TYPE II, CLASS III	.XX ± .03 ANGLES ± 1°
DRAWN BY: PERRITT	.X ± .1 SURFACES = 125
CHECKED: DUERFELDT	1. BREAK ALL SHARP EDGES
OPPS APPR: ANDERSON	.015 x 45° OR .015R
QA APPR: LINDSAY	2. DIMENSIONAL LIMITS APPLY
APPROVED: GILBERT	AFTER PLATING
SCALE 1:2	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
DATE 7/1/2005	USED ON MODEL
SHEET 6 OF 7	MD HELICOPTER

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	17-0054	-F CH'D DIM WAS Ø3.5 IS Ø3.50, WAS .3 IS .30. ADDED NOTE ENGRAVE P/N. CH'D MATERIAL WAS STEEL IS 4140/4142. CH'D TOLERANCES FROM ±.005 TO ±.010, FROM ±.01 TO ±.03.	3/3/2017	RJC	JAG



(F)

IN PLACE OF UPPER SEAL RETAINER WHILE ADJUSTING ROTATIONAL DRAG

DART AEROSPACE	
TITLE M/R HUB BEARING TOOLS	
DWG NO. RBT67828-F	REV 2
MAT'L 4140/4142	UNLESS OTHERWISE SPECIFIED
HEAT TREAT	DIMENSIONS ARE IN INCHES
FINISH BLACK OXIDE	.XXX ± .010 FRACTIONS ± 1/8
SPEC QMSI-6.2.2, B.O. REV D	.XX ± .03 ANGLES ± 1°
	.X ± .1 SURFACES = 125
DRAWN BY: PERRITT	1. BREAK ALL SHARP EDGES
CHECKED: DUERFELDT	.015 x 45° OR .015R
OPPS APPR: ANDERSON	2. DIMENSIONAL LIMITS APPLY
QA APPR: LINDSAY	AFTER PLATING
APPROVED: GILBERT	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
SCALE 1:2	DATE 7/1/2005
	SHEET 7 OF 7